



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

November 9, 2016

Ms. Audra Zentner  
Assistant Director - Regulatory  
Bonide Products, Inc.  
6301 Sutliff Road  
Oriskany, NY 13424

Subject: Notification per PRN 98-10 - Adding Optional Ready-to-Spray Directions to Residential Label  
Product Name: Bonide Horticultural and Dormant Spray Oil  
EPA Registration Number: 4-80  
Application Date: November 9, 2016  
Decision Number: 523304

Dear Ms. Zentner:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions, you may contact me at (703) 308-2972 or via email at [walsh.michael@epa.gov](mailto:walsh.michael@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Walsh", is positioned above the printed name.

Michael Walsh  
Product Manager 11  
Invertebrate & Vertebrate Branch 2  
Registration Division  
Office of Pesticide Programs

**VERSION A**  
**(Commercial/Agricultural)**



**NOTIFICATION**

4-80

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

11/09/2016

[FRONT PANEL]



## **BONIDE<sup>®</sup> HORTICULTURAL AND DORMANT SPRAY OIL**

[Additional Brand Names: All Seasons<sup>®1</sup> Horticultural and Dormant Spray Oil Ready to Spray; Bonide All Seasons<sup>®1</sup> Horticultural & Dormant Spray Oil; Bonide All Seasons<sup>®1</sup> Commercial Horticultural & Dormant Spray Oil Concentrate; All Seasons<sup>®1</sup> Commercial Horticultural & Dormant Spray Oil Concentrate]

Optional Marketing Statements:

Kills insects by smothering.

For use on the types of fruit trees, shade trees, evergreens, ornamentals, and flowers that are listed on this label.

Use year-round<sup>1</sup>.

For use on Fruit Trees, Shade Trees, Roses, Ornamental Shrubs, and Vegetables as listed on this label.

Dormant and Growing Season Insect Spray

CONTROLS Scale Insects, Mealybugs, Apple Aphids, European Red Spider Mites, Leafminers, Leaf rollers [redbanded, obliquebanded, fruittree], Light Brown Apple Moth, Powdery Mildew, Rust and other insects and diseases listed on this label. USE on pears, cherries, peaches, asparagus, corn, peppers, roses, and other crops as directed on this label.

Controls insects and diseases as listed on this label.

3-in-1 [product] provides protection against insects, mites & diseases listed on this label.

**ACTIVE INGREDIENT:**

Mineral Oil\* (CAS #8012-95-1)..... 98%

**OTHER INGREDIENTS:**..... 2%

**TOTAL**..... 100%

(Superior type U.R. Min 92%)

\*Contains petroleum distillates.

### **KEEP OUT OF REACH OF CHILDREN CAUTION**

See side/back/other panel(s) for additional precautionary statements and First Aid.

**NET CONTENTS:**\_\_\_\_\_

<sup>1</sup>Do not apply when temperature is greater than 90°F or less than 40°F

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[BACK/SIDE/OTHER PANEL(S)]

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store unused product in original container only. Store in a cool, dry area out of the reach of children and animals.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

[For containers  $\leq$  5 gallons]:

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities.

[For containers  $>$  5 gallons]:

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities.

For information on pesticide products (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

SEE ATTACHED BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

Bonide Products, Inc., 6301 Sutliff Road, Oriskany, NY 13424

[batch code inserted at production]

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[ATTACHED BOOKLET – VERSION A - COMMERCIAL]



## BONIDE® HORTICULTURAL AND DORMANT SPRAY OIL

[Additional Brand Names: All Seasons®<sup>1</sup> Horticultural and Dormant Spray Oil Ready to Spray; Bonide All Seasons®<sup>1</sup> Horticultural & Dormant Spray Oil; Bonide All Seasons®<sup>1</sup> Commercial Horticultural & Dormant Spray Oil Concentrate; All Seasons®<sup>1</sup> Commercial Horticultural & Dormant Spray Oil Concentrate]

### Optional Marketing Statements:

Kills insects by smothering.

For use on the types of fruit trees, shade trees, evergreens, ornamentals, and flowers that are listed on this label.

Use year-round<sup>1</sup>.

For use on Fruit Trees, Shade Trees, Roses, Ornamental Shrubs, and Vegetables as listed on this label.

Dormant and Growing Season Insect Spray

CONTROLS Scale Insects, Mealybugs, Apple Aphids, European Red Spider Mites, Leafminers, Leaf rollers [redbanded, obliquebanded, fruittree], Light Brown Apple Moth, Powdery Mildew, Rust and other insects and diseases listed on this label. USE on pears, cherries, peaches, asparagus, corn, peppers, roses, and other crops as directed on this label.

Controls insects and diseases as listed on this label.

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### ACTIVE INGREDIENT:

Mineral Oil\* (CAS #8012-95-1)..... 98%

OTHER INGREDIENTS:..... 2%

TOTAL..... 100%

(Superior type U.R. Min 92%)

\*Contains petroleum distillates.

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

<sup>1</sup>Do not apply when temperature is greater than 90°F or less than 40°F

### FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

**If in Eyes:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

**Note to Physician:** This product contains petroleum distillates and may pose an aspiration pneumonia problem.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber, neoprene rubber, or viton. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, flaggers, and other handlers must wear:

- long-sleeve shirt and long pants,
- shoes plus socks,
- chemical-resistant gloves.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

### User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. Do not apply this product through any type of irrigation system (i.e., via chemigation).

### AGRICULTURAL USE REQUIREMENTS:

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontaminating, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about person protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as soil or water, is:

- coveralls,
- shoes plus socks, and
- chemical-resistant gloves made of any waterproof material.

### NON-AGRICULTURAL USE REQUIREMENTS:

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or green houses. Do not enter or allow others to enter until sprays have dried.

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, and relative humidity) and method of application (ground, aerial, or airblast) can influence pesticide drift. The applicator and grower must evaluate all factors and make appropriate adjustments when applying this product. The restrictions pertaining to wind speed, temperature inversions, and droplet size apply to all of the methods of application permitted for this product.

**Wind Speed:** Do not apply at wind speeds greater than 15 mph at the application site.

**Temperature Inversions:** If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

**Droplet Size:** Apply as a medium or coarser spray (ASABE standard 572), and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.



**Ground Spray Applications:** Apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

**Airblast Applications:** Turn off outward pointing nozzles at row ends and when spraying outer row. To minimize spray loss over the top in citrus applications, spray must be directed into the canopy.

**Aerial Applications:** Do not release spray at a height greater than 10 feet above the ground, top of crop, or above the orchard canopy.

**Boom Length:** The boom length must not exceed 75% of the wingspan or 90% of the rotor blade's diameter.

**Swath Adjustment:** When applications are made cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Leave at least one swath unsprayed at the downwind edge of the treated field.

**NOTE:** DO NOT APPLY HORTICULTURAL SPRAY OIL WITH SULFUR SPRAYS OR WHERE SULFUR IS ON THE FOLIAGE. TO DO SO MAY CAUSE FOLIAGE INJURY, LEAF DROP. DO NOT APPLY HORTICULTURAL SPRAY OIL AT ABNORMAL TEMPERATURES (ABOVE 90°F) OR WHEN PLANTS ARE DRY (SUFFERING FOR WANT OF MOISTURE) AS IT MAY CAUSE LEAF DROP DUE TO "SHOCK."

**HORTICULTURAL SPRAY OIL** is a self-emulsifying spray oil, composed of paraffinic oil with emulsifier and spreader sticker, which envelop, wet and smother over wintering eggs of European red spider mites, Adelgids, scale insects, apple aphids, bud moth, leaf roller [redbanded, obliquebanded, fruittree], light brown apple moth, red bug, codling moth larvae, psylla (adults), blister mites, galls, whitefly larvae and mealybugs on fruit trees, shade trees, vegetables, ornamentals, shrubs and roses.

**HORTICULTURAL SPRAY OIL** may be used at the DORMANT STAGE (before buds show green tissue), GREEN TIP STAGE (when leaves of blossom buds are bursting and show about 1/8 to 1/4 inch of green color), DELAYED DORMANT STAGE (when the leaves of the blossom buds are out from 1/4 to 1/2 inch), and during the GROWING SEASON.

SHAKE WELL. Then add HORTICULTURAL SPRAY OIL to desired amount of water and mix thoroughly. Use a good pressure spray and apply enough liquid per tree to wet entire surface of branches, main limbs and trunk. Give special attention to underside of limbs. Make application when the temperature is above 40°F.

## FRUIT AND NUT CROPS

CROP	PESTS	TIMING & APPLICATION RATE	RESTRICTIONS
Acerola (Barbados Cherry)* Atemoya* Carambola (Star Fruit)* Rambutan*	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Caterpillars, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Use 0.75 – 1.5 gals. of oil per 100 gals. of water at 200-500 gals. of water per acre.  (Concentrate Spray: Use 3-6 gals. Of oil per acre in a minimum of 20 gals. of water per acre.)  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure	*Asterisk denotes crop, pest not approved in California.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 0.75 gal. of oil per 100 gals. of water at 200-500 gals. of water per acre.  (Concentrate Spray: Use 3-6 gals. of oil per acre in a minimum of 20 gals. of water per acre.)  Spray as needed.	
Almonds Apricots Cherries Nectarines Peaches Pistachio	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphid Eggs, Fruit Tree Leafroller* (Eggs), Overwintering Phytocoris (only on pistachio), Overwintering Tent Caterpillars	DORMANT AND DELAYED DORMANT: Use 1-3 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.  (Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre)  European Fruit Lecanium Scale and European Red Mite Eggs: Apply from Green Tip to Delayed Dormant.  San Jose Scale: Apply from Dormant, Green Tip to Delayed Dormant.  Re-spray as needed.  For use on pistachio, apply as a dormant treatment and/or trees may be sprayed after harvest.	*Asterisk denotes crop, pest not approved in California.
	Terrapin Scale	DELAYED DORMANT: Use 2-3 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.  (Concentrate Spray: Use 8 to 12 gals. per acre in a minimum of 20 gals. of water per acre)	
	Cottony Peach Scale	DORMANT: Use 2-3 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.	



		(Concentrate Spray: Use 8 to 12 gals. per acre in a minimum of 20 gals. of water per acre)	
	Powdery Mildew (Cherries, Nectarines and Peaches only)	<p>Cherries: Use 1-2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Preharvest Use: Use up to pit hardening stage. Apply at 10-14 day intervals – shorten interval and/or use 2 gals. of oil per 100 gals. of water when disease conditions are severe. Trees may be sprayed after harvest to maintain control and reduce overwintering inoculum.</p> <p>Nectarines/Peaches: Use 1-2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Begin at 5% bloom and continue at 10-14 day intervals until terminal growth phase stops. Do not apply to oil sensitive varieties.</p>	
	Scales, Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	<p>FOLIAR SPRAY: Use 0.5 – 1.5 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Do not use more than 4 gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Spray as needed.</p>	
	White Peach Scale on Peaches: Only for use in Georgia, Florida, South Carolina, North Carolina, and Alabama	<p>DORMANT: Use 1.5 - 2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Apply before buds begin to swell in the spring. Make 2 applications</p>	

		7-14 days apart, or according to local Cooperative Extension Service recommendations, during the dormant period.	
Apples	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite Eggs, Rust Mite, Rosy Apple Aphid Eggs, Apple Aphid Eggs	DORMANT OR DELAYED DORMANT: Use 1-2 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.	
	Codling Moth*	(Concentrate Spray: Use 3 to 8 gals. per acre in 20 to 100 gals. of water per acre)  Rust Mite: Apply 1.5 - 2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre during the delayed dormant timing.  (Concentrate Spray: Use 6 to 8 gals. per acre in 20 to 100 gals. of water per acre)	Restriction: Use to control first generation early instar stages only.  *Asterisk denotes crop, pest not approved in California.
	Leafroller (red banded, oblique banded, fruit tree), Apple Red Bug, Scurfy Scale, European Red Mite, Bud Moth, Light Brown Apple Moth, Red Bug	GREEN TIP TO DELAYED DORMANT: Use 1-3 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.  (Concentrate Spray: Use 3 to 12 gals. per acre in 20 to 100 gals. of water per acre)  Re-spray as needed.	
	San Jose Scale, Forbes Scale	DORMANT, GREEN TIP TO DELAYED DORMANT: Use 1-2 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.  (Concentrate Spray: Use 3 to 8 gals. per acre in 20 to 100 gals. of water per acre)  Spray as needed.	
	Powdery Mildew	Use 1-2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.  (Concentrate Spray: Use 6 to 8 gals. per acre in 20 to 100 gals. of water per acre)  Apply at tight cluster and continue every 10-14 days through second cover spray.  Use 2 gals. of oil per 100 gals. of water and/or shorter spray interval when disease conditions are severe.	

	Scales, Mites including: Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, Rust Mite, Leafhopper*, San Jose Scale, Rosy Apple Aphid*, Fruit Tree Leafroller*	<p>FOLIAR SPRAY (Post Bloom): Use 1 quart – 1.5 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.</p> <p>For rust mite, summer use, use 1 – 1.5 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>Apply every 10-14 days depending on level of pest pressure. Trees may be sprayed after harvest to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.</p>	*Asterisk denotes crop, pest not approved in California.
Avocados	Avocado Brown Mite, Thrips, Persea Mite	<p>Use 0.5 - 1 gal. of oil per 100 gals. of water in 400 to 3000 gals. per acre.</p> <p>(Concentrate Spray: Use 4 to 15 gals. per acre in 50 gals. of water per acre)</p> <p>Apply through late fall.</p> <p>Re-apply as needed.</p>	California: Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.
Bananas Plantains	Black Leaf Streak ( <i>Mycosphaerella fijiensis</i> ), Black Sigatoka ( <i>Mycosphaerella fijiensis</i> var. <i>difformis</i> ), Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	<p>Use 0.5 – 1.5 gals. of oil in 20 to 100 gals. of water per acre.</p> <p>Begin application when disease first appears and continue every 10-15 days during rainy periods or as is needed.</p>	Restriction: Do not apply when daytime temperatures exceed 80° F as injury may occur. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application. Bag fruits, or use a directed spray on unbagged fruits. Bagged fruit improves crop safety whereas unbagged fruit may show phytotoxicity. This application is also effective in loosening Sooty Mold Fungus and in preventing its formulation by the control of Aphids, Mealybugs, Scales and Whitefly.

Blueberries Bushberries Caneberries Raspberries	Mites, Powdery Mildew, Rust, Sawfly (eggs)*, Scales*, Aphids, Mealybug	Use 0.75 – 1.5 gals. of oil per 100 gals. of water at 100-250 gals. of water per acre.  Spray as needed.	Spray for optimum coverage of leaf surfaces.  *Asterisk denotes crop, pest not approved in California.
Figs	Fig Scale	DORMANT OR DELAYED DORMANT: Use 1-3 gals. of oil per 100 gals. of water at 100-300 gals. of water per acre.  Spray as needed.	
	Mites, Mealybug, Scale	Use 1-2 gals. of oil per 100 gals. of water at 100-500 gals. of water per acre.	Apply as foliar spray.
Grapes	Mealybug, Mites, Leafhopper*, Whiteflies*, Powdery Mildew, Botrytis	Use 1 – 3 gals. of oil in 200 – 300 gals. of water per acre. Spray for optimum coverage of leaf surfaces.  Repeat sprays every 10-14 days.	Oil will remove the bloom on grapes.  Restriction: Table grapes must not be sprayed within 60 days of harvest.
	Powdery Mildew	Use 1 – 3 gals. of oil in 200 – 300 gals. of water per acre. Spray for optimum coverage of leaf surfaces.  Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use 3 gals. of oil in 200 gals. of water per acre and/or shorter spray interval when disease conditions are severe.	Restriction: On grapes, do not mix oil and copper more than once/season.  Restriction: Do not use copper and oil together with fruit present.
	Botrytis Bunch Rot	Use 1 – 3 gals. of oil in 200 – 300 gals. of water per acre. Spray for optimum coverage of leaf surfaces.  Initiate sprays at bloom and repeat prior to bunch closing and véraison. Final application at harvest if needed. Use 3 gals. of oil in 200 gals. of water per acre when disease conditions are severe.	*Asterisk denotes crop, pest not approved in California.
Kiwi	Latania Scale, Greedy Scale, Oleander Scale, San Jose Scale	Use 4-6 gals. of oil in a minimum of 100 gals. of water per acre. Use 6 gals. of oil in 100 gals. of water per acre when scale populations are high.  Spray as needed.  Do not apply after budbreak.	Restriction: Do not use on weak or stressed vines, or where soil moisture is inadequate.
Mango	Mites, Powdery Mildew	Use 1-1.5 gals. of oil in 100 gals. of water per acre. Apply every 2-3	

		<p>weeks as necessary depending on level of pest pressure.</p> <p>For Powdery Mildew – Begin application before bloom. Repeat at bloom and every 2-3 weeks as necessary.</p>	
Olives	Olive (Parlatoria) Scale, Oleander Scale, Black Scale	<p>POSTBLOOM THROUGH AUGUST AND AFTER HARVEST: Use 1-1.5 gals. of oil per 100 gals. of water at 400 to 600 gals. per acre.</p> <p>Spray as needed.</p>	
	Mites	<p>PREBLOOM TO POSTBLOOM BUCKSHOT: Use 1.5 gals. of oil per 100 gals. of water at 400 to 600 gals. per acre.</p> <p>Spray as needed.</p>	
Papaya	Mites, Powdery Mildew, Papaya Ringspot Virus	<p>Use 0.75 – 1.5 gals. of oil in a minimum of 100 gals. of water per acre.</p> <p>For Powdery Mildew and Mites: Spray every 10-14 days depending on the level of pest pressure.</p> <p>For Virus: Spray weekly. Initiate spray when seeds are germinated.</p>	
Pears	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite Eggs	<p>DORMANT: Use 1-2 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.</p> <p>(Concentrate Spray: Use 3 to 8 gals. per acre in 20 to 100 gals. of water per acre)</p> <p>Spray as needed.</p>	
	Pear Psylla	Apply before eggs are laid in early spring.	
	Codling Moth*	Use to control first generation early instar stages only.	*Asterisk denotes crop, pest not approved in California.
	Fruit Tree Leafroller, Pear Leaf Blister Mite	<p>DORMANT: Use 1-3 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre.</p> <p>(Concentrate Spray: Use 3 to 12 gals. per acre in 20 to 100 gals. of water per acre)</p>	
	Powdery Mildew	<p>Use 1-2 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Use 6 to 8</p>	

		<p>gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Apply at bud burst and continue every 10-14 days.</p> <p>Use 2 gals. of oil per 100 gals. of water at 600 gals. per acre and/or 10-day spray interval when disease conditions are severe.</p>	
	Scales, Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, San Jose Scale and Italian Pear Scale (Summer forms), Leafhopper*, Pear Psylla	<p>FOLIAR SPRAY (Post Bloom): Use 1 quart – 1.5 gals. of oil per 100 gals. of water at 100 to 800 gals. per acre. Trees may be sprayed after harvest to maintain control and reduce over-wintering inoculum. Do not apply oil to sensitive varieties.</p>	*Asterisk denotes crop, pest not approved in California.
Pecans	Scales, Aphids (eggs), Mites (eggs)	<p>Use 2-3 gals. of oil per 100 gals. of water in a minimum of 200 gals. of water per acre. Use 2 gals. of oil per 100 gals. of water when trees are in a weakened condition.</p> <p>(Concentrate Spray: Use 6 to 8 gals. per acre in 20 to 125 gals. of water)</p> <p>Apply from late February until buds first break. Re-spray as needed.</p>	
Pineapple	Mealybugs, Bud Moth, Chinese Rose Beetle	<p>Spray: Use 1-2 gals. of oil in 100 gals. of water per acre. Spray as needed.</p> <p>Dip: Use 1-2 gals. of oil in 100 gals. of water. Dip for 30 seconds.</p>	Allow fruit to dry for 1 hour before being stored.
Plums Prunes	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphids Eggs, Fruit Tree Leafroller Eggs, Tent Caterpillars*	<p>DORMANT AND DELAYED DORMANT: Use 1-3 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre.</p> <p>(Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre)</p> <p>Preferred times of application for European Fruit Lecanium Scale and European Red Mite Eggs are Green Tip to Delayed Dormant and for San Jose Scale are Dormant, Green Tip to Delayed Dormant.</p> <p>Spray as needed.</p>	*Asterisk denotes crop, pest not approved in California.
	Terrapin Scale	<p>DELAYED DORMANT: Use 2-3 gals. of oil per 100 gals. of water at</p>	



		300 to 600 gals. per acre.  (Concentrate Spray: Use 8 to 12 gals. per acre in a minimum of 50 gals. of water per acre)  Spray as needed.	
	Cottony Peach Scale	DORMANT: Use 2-3 gals. per 100 gals. of water at 300 to 600 gals. per acre.  (Concentrate Spray: Use 8 to 12 gals. in a minimum of 50 gals. of water per acre)  Spray as needed.	
	Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	FOLIAR SPRAY: Use 0.5 – 1.5 gals. of oil per 100 gals. of water at 300 to 600 gals. per acre. Spray as needed.  (Concentrate Spray: Do not use more than 4 gals. per acre in a minimum of 20 gals. water per acre)  Trees may be sprayed after harvest to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.	Restriction: Certain varieties of plums and prunes may be injured by oil sprays; check for tolerance prior to treatment. Do not apply to trees lacking moisture.
Strawberries	Aphids*, Botrytis, Leafminers*, Mites, Powdery Mildew, Sawfly, Scale, Whiteflies	0.75 gals. of oil per 100 gals. of water. Spray as needed.	*Asterisk denotes crop, pest not approved in California.
Walnuts	Black Scale, Calico Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, European Red Mite Eggs, Walnut Aphid Eggs	DELAYED DORMANT: Use 4-6 gals. of oil in 200-500 gals. of water per acre.  Spray as needed.	Restrictions: Do not apply after husk split. Do not spray oil on sensitive varieties.
	Spider Mites, Soft Scales	SUMMER FOLIAR: Use 4-6 gals. of oil per 200-500 gals. of water per acre. Spray as needed.	

**CITRUS (California Only)** Thorough coverage spray (TC): Applications achieving a uniform film wetting of all portions of the tree at 250 to 2000 gallons of spray solution per acre. The total volume needed is dependent on the size of the trees. Do not exceed a maximum of 212 pounds of active ingredient (in a maximum volume of 2000 gallons of spray mix) per acre when treating citrus in California (based on thorough coverage spray, with 1.5 gallons of product mixed per 100 gallons of water).

Low volume spray (LV): Applications with droplet depositions achieved on all interior and exterior parts of the tree using 10 to 100 gallons of spray solution per acre.

Consult with your local University of California Cooperative Extension Specialist for proper timing and spray program.

Restriction: Do not apply prior to or during a period of excessively high temperatures. Do not apply oil spray when trees show stress.

CROP	PESTS	APPLICATION RATE	TIMING
Grapefruit Lemons Limes Oranges (Navel & Valencia) Tangelos Tangerines  Other citrus hybrids	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Central California:</b> Use 0.5 – 1.5 gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.  Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	<b>Central California:</b> Apply July through September.  Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.
		<b>Southern California:</b> Use 0.5 – 1.5 gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.  Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	<b>Southern California:</b> Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Central California:</b> Use 0.5 – 1.5 gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.  Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	<b>Central California:</b> Apply July through September.  Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.
		<b>Southern California:</b> Use 0.5 – 1.5 gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.  Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	<b>Southern California:</b> Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.

			Interior Lemons and Limes: apply in April and May and/or September through November.
	<p>Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust</p> <p>Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red</p>	<p><b>Oxnard Plains Area:</b> Use 0.5 – 1.5 gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre. Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.</p>	<p><b>Oxnard Plains Area:</b> Make applications as needed throughout the year.</p>

**CITRUS: (Florida and Texas)** Dilute Spray: Apply the spray oil application rate in up to 1500 gallons of water per acre, or 10 to 12 gallons per tree, to over 15 gallons per tree for large trees. Add the oil to a partially filled spray tank under proper agitation and spray to cover all foliage thoroughly.

CROP	PESTS	TIMING & APPLICATION RATE	RESTRICTIONS
Citrons Grapefruits Lemons Limes Mandarins Oranges Tangelos Tangerines  Other citrus hybrids  DO NOT APPLY TO NAVEL ORANGES.	Citrus Rust Mite, Spider Mites, Bud Mites, Flat Mites.	Use 5-10 gals. of oil per 100 gals. of water per acre as a dilute spray.  For dilute spray using 1500 gals. of water per acre, do not exceed 1.5 gals. of oil per 100 gals. of water.	Precautions in the use of oil include: Do not apply oil spray when trees are wilting. Do not apply oil and sulfur within 3 weeks of each other. Sensitive foliage may be injured. In Florida, consult the Florida Citrus Spray and Dust Schedule, or your Agricultural Experiment Station or State Extension Service Specialist for complete details on the spraying program best suited to your locale. In Texas, consult with your Agricultural Experiment Station or State Extension Specialist for complete details on the spraying program suited to your locale.
	Scales: Black Soft, Brown Soft, Chaff, Glover, Purple, Red, Yellow		
	<b>Does not control Citrus Snow Scale.</b>	Summer spray only. Re-spray as needed.	
	Whitefly, Blackfly		
	Greasy Spot (Grapefruit)		
	Greasy Spot (all other varieties)		
Loosening sooty mold		Use 10 gals. of oil in 100 gals. of water per acre when disease pressure is heavy.	

## VEGETABLE CROPS

CROP	PESTS	TIMING & APPLICATION RATE	RESTRICTIONS
Asparagus, Beans, Beets, Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage (Bok Choy and Mapa), Chinese Mustard Cabbage (Gai Choy), Cavalo Broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Celery, Chayote, Chinese Waxgourd, Citron Melon, Cucumber, Gherkin, Hyotan, Cucuzza, Hechima, Chinese Okra, Balsam Apple, Balsam Pear, Bitter Melon, Chinese Cucumber, True Cantaloupe, Cantaloupe, Casaba, Crenshaw Melon, Golden Pershaw Melon, Honeydew Melon, Honey Galls, Mango Melon, Persian Melon, Pumpkin, Summer Squash, Winter Squash, Watermelon, Dasheen (Taro)*, Eggplant, Ginger*, Ginseng*, Herbs and Spices* (Curly Leaf Basil, Lemon Balm), Japanese Radish (Daikon)*, Lettuce, Okra*, Peppers, Potatoes, Radishes, Sweet Potatoes	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Use 0.75 – 1.5 gals. of oil per acre in 50-100 gals. of water. Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus.	Use 0.75 gal. of oil per acre in 50-100 gals. of water.  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	
Chinese Artichoke* (Japanese Artichoke), Cilantro*, Herbs and Spices* (Mexican Oregano, Mint)	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Pepper Psyllids, Cucumber Mosaic Virus 2, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 1-2 gals. of oil per acre in a minimum of 50 gals. of water.  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.
Corn (Sweet)	Aphids, Mites, Leafhopper, Leafminers, Corn Earworm, Rootworm, Armyworm, Whitefly, Cercospora	Use 1-2 gals. of oil per acre in a minimum of 10 gals. of water per acre.  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	

Tomatoes	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Tomato Psyllid*, Tomato Pin Worm*, Fruit Worm*, Army Worm*, Horn Worm*, Lygus Bug*, Stink Bug*, Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 0.75 – 1.5 gals. of oil per 100 gals. of water at 25-150 gals of water per acre. Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.
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## COFFEE

CROP	PESTS	TIMING & APPLICATION RATE	RESTRICTIONS
Coffee	Green Scale	Use 3-6 gals. of oil in 100 gals. of water per acre.  Use only water as a diluent.  Apply when insects appear and treat as necessary at 30-60 day intervals. Do not exceed 18 gals. of oil per acre in a growing season.	Treatments should end 30 days or more before crop picking as oil residues make picking difficult.  Restriction: Do not apply this product through any type of irrigation system. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application.

## ORNAMENTALS

PLANT	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Flowering and Foliage Plants including Roses and Other Flowering Shrubs	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	Winter Dormant Period: Use 2 – 5.4 fl. oz. of oil per 1 gal. of water.  Summer (Foliar or Cover): Use 1 – 2.5 fl. oz. of oil per 1 gal. of water. Do not spray plants during flowering period.  For blackspot and powdery mildew control during the summer do not exceed 2 fl. oz. of oil per 1 gal. of water.	
Foliage Ornamentals & Bedding Plants	Aphids, Adelgids	Winter Dormant Period: Use 1 – 2.5 fl. oz. of oil per 1 gal. of water.  Summer (Foliar or Cover): Use 1 – 2.5 fl. oz. of oil per 1	Application safety during bloom period must be determined for each individual species of plant to be treated by conducting a small

		gal. of water. Do not spray plants during flowering period.	test.
Non-Fruit-Bearing Trees: Apple, Cherry, Peach, Pear	Mites	Use 1.25 – 1.5 fl. oz. of oil per 1 gal. of water. Apply every 10-14 days.	
	Powdery Mildew	Use 1.25 – 1.5 fl. oz. of oil per 1 gal. of water. Spray before disease first appears. Apply every 10-14 days.	
Shade Trees** Ornamental Trees** Shrubs (including Conifers, Deciduous and Broadleaf Evergreens & Woody Ornamentals)	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Hemlock Woolly Adelgids, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	<p>Winter Dormant Period: Use 2.5 - 4 fl. oz. of oil per 1 gal. of water.</p> <p>Summer (Foliar or Cover): Use 1 – 2.5 fl. oz. of oil per 1 gal. of water.</p> <p>For blackspot and powdery mildew control during the summer, do not exceed 2.5 fl. oz. of oil per 1 gal. of water.</p> <p>Do not spray more than 1 time per week.</p>	<p>Restriction: Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. For fall dormant applications, reduce rate to 5 tbsp. of oil per 1 gal. of water and limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Plum.</p> <p>Restriction: This product may cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays (e.g. Alberta Dwarf Spruce). Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all the leaves and stems until wet but without significant runoff.</p>

Use the lowest concentration indicated in the above table if sensitive plants are to be treated.

\*\*This product removes the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce.

Always use lower dosage or test spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecyparis, Juniper, Japanese Holly and Spruce.

Tendency toward sensitivity: Red Cedar and Douglas Fir.



## GREENHOUSE AND CONTAINER

Frequency of Application: For the greenhouse pests listed, use once a week initially, then as the pest is controlled, decrease the frequency to every 2-3 weeks, if needed. Application safety during bloom period must be determined for each individual species of plant to be treated by conducting a small test.

PLANT	PESTS	DILUTION RATE	RESTRICTIONS
Ageratum, Crown of Thorns, Dieffenbachia, Dogwood*, Dracaena*, Ferns, Ficus, Holly*, Lisianthus, Magnolia*, Orchid, Palms, Petunia, Poinsettia, Schefflera, Sunflower	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly, Powdery Mildew*	Summer (Foliar or Cover): Use 0.5 - 1 gal. of oil per 100 gals. of water.	Due to varietal differences in response to a treatment of this product at the labeled rate, conduct a small test on 1 or 2 plants of the specific variety to be treated.
Aglaonema, Aster, Azaleas, Begonias, Browallia, Camellias, Carnation, Celosia, Chrysanthemum, Coleus, Cosmos, Crepe Myrtle*, Dusty Miller, Easter Lilies, Fuchsia*, Gardenias, Gerbera, Helichrysum, Hibiscus Foliage, Hydrangea, Impatiens*, Jade Plant, Marigold, New Guinea Impatiens, Nicotonia, Philodendron, Portulaca, Reiger Begonias, Snapdragon, Zinnias	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly, Powdery Mildew*	Summer (Foliar or Cover): Use 1 – 2 gals. of oil per 100 gals. of water.	Some plants are more sensitive to oil treatments if any of the following conditions are present when application is made: high humidity (74%), an overcast or cloudy day, inadequate air flow, a small greenhouse where the sunlight is magnified causing a fast build-up of temperature and light intensity.
Leaf Polish for Hardy Plants		Use 1 oz. of oil per 1 gal. of water.	*Asterisk denotes crop, pest not approved in California.

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store unused product in original container only. Store in a cool, dry area out of the reach of children and animals.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

[For containers <= 5 gallons]:

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities.

[For containers > 5 gallons]:

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for

recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities.
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For information on pesticide products (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

#### **WARRANTY**

Seller warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, Seller makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, Seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, Seller shall have no liability for consequential damages.

Bonide Products, Inc.  
6301 Sutliff Road  
Oriskany, NY 13424

**VERSION B**  
**(Residential)**



[FRONT PANEL]



## **BONIDE® HORTICULTURAL AND DORMANT SPRAY OIL**

[Additional Brand Names: All Seasons®<sup>1</sup> Horticultural and Dormant Spray Oil Ready to Spray;  
Bonide All Seasons®<sup>1</sup> Horticultural & Dormant Spray Oil]

### Optional Marketing Statements:

Kills insects by smothering.

For use on the types of fruit trees, shade trees, evergreens, ornamentals, and flowers that are listed on this label.

Use year-round<sup>1</sup>.

For use on Fruit Trees, Shade Trees, Roses, Ornamental Shrubs, and Vegetables as listed on this label.

Dormant and Growing Season Insect Spray

CONTROLS Scale Insects, Mealybugs, Apple Aphids, European Red Spider Mites, Leafminers, Leaf rollers [redbanded, obliquebanded, fruittree], Light Brown Apple Moth, Powdery Mildew, Rust and other insects and diseases listed on this label. USE on pears, cherries, peaches, asparagus, corn, peppers, roses, and other crops as directed on this label.

Controls insects and diseases as listed on this label.

3-in-1 [product] provides protection against insects, mites & diseases listed on this label.

### **ACTIVE INGREDIENT:**

Mineral Oil\* (CAS #8012-95-1)..... 98%

**OTHER INGREDIENTS:**..... 2%

**TOTAL**..... 100%

(Superior type U.R. Min 92%)

\*Contains petroleum distillates

**KEEP OUT OF REACH OF CHILDREN**

## **CAUTION**

See side/back/other panel(s) for additional precautionary statements and First Aid.

**NET CONTENTS:** \_\_\_\_\_

<sup>1</sup>Do not apply when temperature is greater than 90°F or less than 40°F

[BACK/SIDE/OTHER PANEL(S)]

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Wear long-sleeved shirt, long pants, shoes, socks and waterproof gloves when using or handling this product.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Apply this product only as specified on the label.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store and transport in an upright position. Keep container tightly closed to prevent evaporation. Do not use, pour, spill or store near heat or open flame. Store in a cool dry area inaccessible to children or pets.

**Pesticide Disposal:** *If partly filled* – Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**Container Disposal:** *If empty* – Nonrefillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.

SEE ATTACHED BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

For information on pesticide products (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

Bonide Products, Inc.  
6301 Sutliff Road  
Oriskany, NY 13424

[batch code inserted at production]

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[ATTACHED  
BOOKLET –  
VERSION B -  
RESIDENTIAL]



## BONIDE® HORTICULTURAL AND DORMANT SPRAY OIL

[Additional Brand Names: All Seasons®<sup>1</sup> Horticultural and Dormant Spray Oil Ready to Spray;  
Bonide All Seasons®<sup>1</sup> Horticultural & Dormant Spray Oil]

### Optional Marketing Statements:

Kills insects by smothering.

For use on the types of fruit trees, shade trees, evergreens, ornamentals, and flowers that are listed on this label.

Use year-round<sup>1</sup>.

For use on Fruit Trees, Shade Trees, Roses, Ornamental Shrubs, and Vegetables as listed on this label.

Dormant and Growing Season Insect Spray

CONTROLS Scale Insects, Mealybugs, Apple Aphids, European Red Spider Mites, Leafminers, Leaf rollers [redbanded, obliquebanded, fruittree], Light Brown Apple Moth, Powdery Mildew, Rust and other insects and diseases listed on this label. USE on pears, cherries, peaches, asparagus, corn, peppers, roses, and other crops as directed on this label.

Controls insects and diseases as listed on this label.

3-in-1 [product] provides protection against insects, mites & diseases listed on this label.

### ACTIVE INGREDIENT:

Mineral Oil\* (CAS #8012-95-1)..... 98%

OTHER INGREDIENTS:..... 2%

TOTAL..... 100%

(Superior type U.R. Min 92%)

\*Contains petroleum distillates

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**NET CONTENTS:\_\_\_\_\_**

<sup>1</sup>Do not apply when temperature is greater than 90°F or less than 40°F

### FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

<b>If in Eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
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<b>Note to Physician:</b> This product contains petroleum distillates and may pose an aspiration pneumonia problem.
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### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Wear long-sleeved shirt, long pants, shoes, socks and waterproof gloves when using or handling this product.

#### ENVIRONMENTAL HAZARDS

This product is toxic to fish. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Apply this product only as specified on the label.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in any way that it will contact other persons or pets, either directly or through drift. Keep other persons out of the treated area during application. Do not allow persons or pets to enter the treated area until sprays have dried.

**NOTE:** DO NOT APPLY HORTICULTURAL SPRAY OIL WITH SULFUR SPRAYS OR WHERE SULFUR IS ON THE FOLIAGE. TO DO SO MAY CAUSE FOLIAGE INJURY, LEAF DROP. DO NOT APPLY HORTICULTURAL SPRAY OIL AT ABNORMAL TEMPERATURES (ABOVE 90°F) OR WHEN PLANTS ARE DRY (SUFFERING FOR WANT OF MOISTURE) AS IT MAY CAUSE LEAF DROP DUE TO "SHOCK."

Mixture ratios vary. Read and use according to application directions. Apply using a good pressure spray hose-end or watering can.

**HORTICULTURAL SPRAY OIL** is a self-emulsifying spray oil, composed of paraffinic oil with emulsifier and spreader sticker, which envelop, wet and smother over wintering eggs of European red spider mites, Adelgids, scale insects, apple aphids, bud moth, leaf roller [redbanded, obliquebanded, fruittree], light brown apple moth, red bug, codling moth larvae,



psylla (adults), blister mites, galls, whitefly larvae and mealybugs on fruit trees, shade trees, vegetables, ornamentals, shrubs and roses.

**HORTICULTURAL SPRAY OIL** may be used at the DORMANT STAGE (before buds show green tissue), GREEN TIP STAGE (when leaves of blossom buds are bursting and show about 1/8 to 1/4 inch of green color), DELAYED DORMANT STAGE (when the leaves of the blossom buds are out from 1/4 to 1/2 inch), and during the GROWING SEASON.

**(WHEN PACKAGED IN MIX & APPLY CONTAINER)**

SHAKE WELL. Then add HORTICULTURAL SPRAY OIL to desired amount of water and mix thoroughly. Use a good pressure spray and apply enough liquid per tree to wet entire surface of branches, main limbs and trunk. Give special attention to underside of limbs. Make application when the temperature is above 40°F.

**2 Tablespoons = 1 fluid ounce**

**FRUIT, NUTS & BERRIES**

CROP	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Acerola (Barbados Cherry)* Atemoya* Carambola (Star Fruit)* Rambutan*	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Caterpillars, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Use 2 – 4 tbsp. of oil per 1 gal. of water.  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure	*Asterisk denotes crop, pest not approved in California.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 2 tbsp. of oil per 1 gal. of water.  Spray as needed.	
Almonds Apricots Cherries Nectarines Peaches Pistachio	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphid Eggs, Fruit Tree Leafroller* (Eggs), Wintering Phytocoris (only on pistachio), Tent Caterpillars	DORMANT AND DELAYED DORMANT: Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.  European Fruit Lecanium Scale and European Red Mite Eggs: Apply from Green Tip to Delayed Dormant.  San Jose Scale: Apply from Dormant, Green Tip to Delayed Dormant.  Re-spray as needed.  For use on pistachio, apply as a dormant treatment and/or trees may be sprayed after harvest.	*Asterisk denotes crop, pest not approved in California.
	Terrapin Scale	DELAYED DORMANT: Use 5 – 7.5 tbsp. of oil per 1 gal. of	

		water.	
	Cottony Peach Scale	DORMANT: Use 5 – 7.5 tbsp. of oil per 1 gal. of water.	
	Powdery Mildew (Cherries, Nectarines and Peaches only)	Cherries: Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Preharvest Use: Use up to pit hardening stage. Apply at 10-14 day intervals – shorten interval and/or use 5 tbsp. of oil per gal. of water when disease conditions are severe. Trees may be sprayed after harvest to maintain control and reduce overwintering inoculum.  Nectarines/Peaches: Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Begin at 5% bloom and continue at 10-14 day intervals until terminal growth phase stops. Do not apply to oil sensitive varieties.	
	Scales, Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	FOLIAR SPRAY: Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Spray as needed.	
	White Peach Scale on Peaches: Only for use in Georgia, Florida, South Carolina, North Carolina, and Alabama	DORMANT: Use 4 – 5 tbsp. of oil per 1 gal. of water. Apply before buds begin to swell in the spring.  Make 2 applications 7-14 days apart, or according to local Cooperative Extension Service recommendations, during the dormant period.	
Apples	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite Eggs, Rust Mite, Rosy Apple Aphid Eggs, Apple Aphid Eggs	DORMANT OR DELAYED DORMANT: Use 2.5 – 5 tbsp. of oil per 1 gal. of water.	
	Codling Moth*	Rust Mite: Apply 4 – 5 tbsp. of oil per 1 gal. of water during the delayed dormant timing.	Restriction: Use to control first generation early instar stages only.  *Asterisk denotes crop, pest not approved in California.

	Leafroller (red banded, oblique banded, fruit tree), Apple Red Bug, Scurfy Scale, European Red Mite, Bud Moth, Light Brown Apple Moth, Red Bug	GREEN TIP TO DELAYED DORMANT: Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.  Re-spray as needed.	
	San Jose Scale, Forbes Scale	DORMANT, GREEN TIP TO DELAYED DORMANT: Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Spray as needed.	
	Powdery Mildew	Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Apply at tight cluster and continue every 10-14 days through second cover spray.  Use 5 tbsp./gal. and/or shorter spray interval when disease conditions are severe.	
	Scales, Mites including: Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, Rust Mite, Leafhopper*, San Jose Scale, Rosy Apple Aphid*, Fruit Tree Leafroller*	FOLIAR SPRAY (Post Bloom): Use 1 – 4 tbsp. of oil per 1 gal. of water.  For rust mite, summer use, use 2.5 – 4 tbsp. of oil per 1 gal. of water.  Apply every 10-14 days depending on level of pest pressure. Trees may be sprayed after harvest to maintain control and reduce overwintering pressure. Do not apply oil to sensitive varieties.	*Asterisk denotes crop, pest not approved in California.
Avocados	Avocado Brown Mite, Thrips, Persea Mite	Use 1.5 – 2.5 tbsp. of oil per 1 gal. of water. Apply through late fall.  Re-apply as needed.	California: Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.
Bananas Plantains	Black Leaf Streak ( <i>Mycosphaerella fijiensis</i> ), Black Sigatoka ( <i>Mycosphaerella fijiensis</i> var. <i>difformis</i> ), Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Begin application when disease first appears and continue every 10-15 days during rainy periods or as is needed.	Restriction: Do not apply when daytime temperatures exceed 80° F as injury may occur. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application. Bag fruits, or use a

			directed spray on unbagged fruits. Bagged fruit improves crop safety whereas unbagged fruit may show phytotoxicity. This application is also effective in loosening Sooty Mold Fungus and in preventing its formulation by the control of Aphids, Mealybugs, Scales and Whitefly.
Blueberries Bushberries Caneberries Raspberries	Mites, Powdery Mildew, Rust, Sawfly (eggs)*, Scales*, Aphids, Mealybug	Use 2 – 4 tbsp. of oil per 1 gal. of water.  Spray as needed.	Spray for optimum coverage of leaf surfaces.  *Asterisk denotes crop, pest not approved in California.
Figs	Fig Scale	DORMANT OR DELAYED DORMANT: Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.  Spray as needed.	
	Mites, Mealybug, Scale	Use 2.5 – 5 tbsp. of oil per 1 gal. of water.	Apply as foliar spray.
Grapes	Mealybug, Mites, Leafhopper*, Whiteflies*, Powdery Mildew, Botrytis	Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water. Spray for optimum coverage of leaf surfaces.	Oil will remove the bloom on grapes.
		Repeat sprays every 10-14 days.	Restriction: Table grapes must not be sprayed within 60 days of harvest.
		For Powdery Mildew – Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.	
		Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use 7.5 tbsp./gal. and/or shorter spray interval when disease conditions are severe.	Restriction: On grapes, do not mix oil and copper more than once/season.
		For Botrytis Bunch Rot – Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Initiate sprays at bloom and repeat prior to bunch closing and véraison. Final application at harvest if needed. Use 5 tbsp./gal. when disease conditions are severe.	Restriction: Do not use copper and oil together with fruit present.  *Asterisk denotes crop, pest not approved in California.
Kiwi	Latania Scale, Greedy Scale, Oleander Scale, San Jose Scale	Use 10 – 15 tbsp. of oil per 1 gal. of water. Use 15 tbsp./gal. when scale populations are high.	Restriction: Do not use on weak or stressed vines, or

		Spray as needed.  Do not apply after budbreak.	where soil moisture is inadequate.
Mango	Mites, Powdery Mildew	Use 2.5 – 4 tbsp. of oil per 1 gal. of water. Apply every 2-3 weeks as necessary depending on level of pest pressure.  For Powdery Mildew – Begin application before bloom. Repeat at bloom and every 2-3 weeks as necessary.	
Olives	Olive (Parlatoria) Scale, Oleander Scale, Black Scale	POSTBLOOM THROUGH AUGUST AND AFTER HARVEST: Use 2.5 – 4 tbsp. of oil per 1 gal. of water.  Spray as needed.	
	Mites	PREBLOOM TO POSTBLOOM BUCKSHOT: Use 4 tbsp. of oil per 1 gal. of water.  Spray as needed.	
Papaya	Mites, Powdery Mildew, Papaya Ringspot Virus	Use 2 – 4 tbsp. of oil per 1 gal. of water.  For Powdery Mildew and Mites: Spray every 10-14 days depending on the level of pest pressure.  For Virus: Spray weekly. Initiate spray when seeds are germinated.	
Pears	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite Eggs	DORMANT: Use 2.5 – 5 tbsp. per 1 gal. of water.  Spray as needed.	
	Pear Psylla	Apply before eggs are laid in early spring.	
	Codling Moth*	Use to control first generation early instar stages only.	*Asterisk denotes crop, pest not approved in California.
	Fruit Tree Leafroller, Pear Leaf Blister Mite	DORMANT: Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.	
	Powdery Mildew	Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Apply at bud burst and continue every 10-14 days.  Use 5 tbsp./gal. and/or 10-day spray interval when disease conditions are severe.	
	Scales, Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, San Jose	FOLIAR SPRAY (Post Bloom): Use 1 – 4 tbsp. of oil per 1 gal. of water. Trees may be sprayed after	*Asterisk denotes crop, pest not approved in

	Scale and Italian Pear Scale (Summer forms), Leafhopper*, Pear Psylla	harvest to maintain control and reduce over-wintering inoculum. Do not apply oil to sensitive varieties.	California.
Pecans	Scales, Aphids (eggs), Mites (eggs)	Use 5 – 7.5 tbsp. of oil per 1 gal. of water. Use 5 tbsp. of oil in 1 gal. of water when trees are in a weakened condition.  Apply from late February until buds first break. Re-spray as needed.	
Pineapple	Mealybugs, Bud Moth, Chinese Rose Beetle	Spray: Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Spray as needed.  Dip: Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Dip for 30 seconds.	Allow fruit to dry for 1 hour before being stored.
Plums Prunes	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphids Eggs, Fruit Tree Leafroller Eggs, Tent Caterpillars*	DORMANT AND DELAYED DORMANT: Use 2.5 – 7.5 tbsp. of oil per 1 gal. of water.  Preferred times of application for European Fruit Lecanium Scale and European Red Mite Eggs are Green Tip to Delayed Dormant and for San Jose Scale are Dormant, Green Tip to Delayed Dormant.  Spray as needed.	*Asterisk denotes crop, pest not approved in California.
	Terrapin Scale	DELAYED DORMANT: Use 5 – 7.5 tbsp. per 1 gal. of water. Spray as needed.	
	Cottony Peach Scale	DORMANT: Use 5 – 7.5 tbsp. per 1 gal. of water. Spray as needed.	
	Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	FOLIAR SPRAY: Use 1.5 – 4 tbsp. of oil per 1 gal. of water. Spray as needed.  Trees may be sprayed after harvest to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.	Restriction: Certain varieties of plums and prunes may be injured by oil sprays; check for tolerance prior to treatment. Do not apply to trees lacking moisture.
Strawberries	Aphids*, Botrytis, Leafminers*, Mites, Powdery Mildew, Sawfly, Scale, Whiteflies	2 tbsp. of oil per 1 gal. of water. Spray as needed.	*Asterisk denotes crop, pest not approved in California.
Walnuts	Black Scale, Calico Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, European Red Mite Eggs, Walnut Aphid Eggs	DELAYED DORMANT: Use 10 – 15 tbsp. of oil per 1 gal. of water.  Spray as needed.	Restrictions: Do not apply after husk split. Do not spray oil on sensitive varieties.
	Spider Mites, Soft Scales	SUMMER FOLIAR: Use 10 – 15 tbsp. of oil per 1 gal. of water. Spray as needed.	



**CITRUS (California Only)** Do not exceed a maximum of 4.8 pounds active ingredient per 1,000 square feet in California.

CROP	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Grapefruit Lemons Limes Oranges (Navel & Valencia) Tangelos Tangerines  Other citrus hybrids	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Central California:</b> Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.  Spray as needed.	Restriction: Do not apply prior to or during a period of excessively high temperatures. Do not apply oil spray when trees show stress.  Consult with your local University of California Cooperative Extension Specialist for proper timing and spray program.
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Southern California:</b> Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Coastal Lemons and Limes: apply May and June and/or September through December.  Interior Lemons and Limes: apply in April and May and/or September through November.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.  Spray as needed.	
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Oxnard Plains Area:</b> Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Make applications as needed throughout the year.	

**CITRUS: (Florida and Texas)** Do not exceed a maximum of 3.6 pounds active ingredient per 1,000 square feet in Texas and Florida.

CROP	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Citrons Grapefruits Lemons Limes Mandarins Oranges Tangelos Tangerines  Other citrus hybrids  DO NOT APPLY TO NAVEL ORANGES.	Citrus Rust Mite, Spider Mites, Bud Mites, Flat Mites.	Use 1.5 – 4 tbsp. of oil per 1 gal. of water.  Summer spray only. Re-spray as needed.	Precautions in the use of oil include: Do not apply oil spray when trees are wilting. Do not apply oil and sulfur within 3 weeks of each other. Sensitive foliage may be injured. In Florida, consult the Florida Citrus Spray and Dust Schedule, or your Agricultural Experiment Station or State Extension Service Specialist for complete details on the spraying program best suited to your locale. In Texas, consult with your Agricultural Experiment Station or State Extension Specialist for complete details on the spraying program suited to your locale.
	Scales: Black Soft, Brown Soft, Chaff, Glover, Purple, Red, Yellow		
	<b>Does not control Citrus Snow Scale.</b>		
	Whitefly, Blackfly		
	Greasy Spot (Grapefruit)		
	Greasy Spot (all other varieties)		
	Loosening sooty mold		Use 4 tbsp./gal. when disease pressure is heavy.

## VEGETABLE GARDENS

CROP	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Asparagus, Beans, Beets, Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage (Bok Choy and Mapa), Chinese Mustard Cabbage (Gai Choy), Cavalo Broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Celery, Chayote, Chinese Waxgourd, Citron Melon, Cucumber, Gherkin, Hyotan, Cucuzza, Hechima, Chinese Okra, Balsam Apple, Balsam Pear, Bitter Melon, Chinese Cucumber, True Cantaloupe, Cantaloupe, Casaba, Crenshaw Melon, Golden Pershaw Melon, Honeydew Melon, Honey Galls, Mango Melon, Persian Melon, Pumpkin, Summer Squash, Winter Squash, Watermelon,	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Use 2 – 4 tbsp. of oil per 1 gal. of water. Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus.	Use 2 tbsp. of oil per 1 gal. of water.  Spray as needed.	

Dasheen (Taro)*, Eggplant, Ginger*, Ginseng*, Herbs and Spices* (Curly Leaf Basil, Lemon Balm), Japanese Radish (Daikon)*, Lettuce, Okra*, Peppers, Potatoes, Radishes, Sweet Potatoes			
Chinese Artichoke* (Japanese Artichoke), Cilantro*, Herbs and Spices* (Mexican Oregano, Mint)	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Pepper Psyllids, Cucumber Mosaic Virus 2, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.
Corn (Sweet)	Aphids, Mites, Leafhopper, Leafminers, Corn Earworm, Rootworm, Armyworm, Whitefly, Cercospora	Use 2.5 – 5 tbsp. per 1 gal. of water.  Spray as needed.	
Tomatoes	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Tomato Psyllid*, Tomato Pin Worm*, Fruit Worm*, Army Worm*, Horn Worm*, Lygus Bug*, Stink Bug*, Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 2 – 4 tbsp. of oil per 1 gal. of water. Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.	*Asterisk denotes crop, pest not approved in California.

## ROSES, FLOWERING SHRUBS & ORNAMENTALS

PLANT	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Flowering and Foliage Plants including Roses and Other Flowering Shrubs	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms,	Winter Dormant Period: Use 5 – 7.5 tbsp. of oil per 1 gal. of water.  Summer (Foliar or Cover): Use 2 – 5 tbsp. of oil per 1 gal. of water.  For blackspot and powdery mildew control during the	

	Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	summer do not exceed 4 tbsp. of oil per 1 gal. of water.  Spray as needed.	
Foliage Ornamentals & Bedding Plants	Aphids, Adelgids	Winter Dormant Period: Use 5 – 7.5 tbsp. of oil per 1 gal. of water.  Summer (Foliar or Cover): Use 2 – 5 tbsp. of oil per 1 gal. of water.  Spray as needed.	Application safety during bloom period must be determined for each individual species of plant to be treated by conducting a small test.
Non-Fruit-Bearing Trees: Apple, Cherry, Peach, Pear	Mites	Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Apply every 10-14 days.	
	Powdery Mildew	Use 2.5 – 5 tbsp. of oil per 1 gal. of water. Spray before disease first appears. Apply every 10-14 days.	
Shade Trees** Ornamental Trees** Shrubs (including Conifers, Deciduous and Broadleaf Evergreens & Woody Ornamentals)	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Hemlock Wooly Adelgids, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	Winter Dormant Period: Use 5 – 7.5 tbsp. of oil per 1 gal. of water.  Summer (Foliar or Cover): Use 2 – 5 tbsp. of oil per 1 gal. of water.  For blackspot and powdery mildew control during the summer, do not exceed 5 tbsp. of oil per 1 gal. of water.  Spray as needed.	Restriction: Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. For fall dormant applications, reduce rate to 5 tbsp. of oil per 1 gal. of water and limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Plum.  Restriction: This product may cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays (e.g. Alberta Dwarf Spruce). Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all the leaves and stems until wet but without significant runoff.

Use the lowest concentration indicated in the above table if sensitive plants are to be treated.

**\*\*This product removes the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce.**

Always use most dilute concentration indicated in the preceding table for the type of plant to be treated or test spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecyparis, Juniper, Japanese Holly and Spruce.

Tendency toward sensitivity: Red Cedar and Douglas Fir.

## HOBBY GREENHOUSES

Frequency of Application: Use once a week initially, then as the pest is controlled, decrease the frequency to every 2-3 weeks as needed. Application safety during bloom period must be determined for each individual species of plant to be treated by conducting a small test.

PLANT	PESTS	TIMING & DILUTION RATE	RESTRICTIONS
Ageratum, Crown of Thorns, Dieffenbachia, Dogwood*, Dracaena*, Ferns, Ficus, Holly*, Lisianthus, Magnolia*, Orchid, Palms, Petunia, Poinsettia, Schefflera, Sunflower	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly, Powdery Mildew*	Summer (Foliar or Cover): Use 1.5 – 2.5 tbsp. of oil per 1 gal. of water.  Spray as needed.	Due to varietal differences in response to a treatment of this product at the labeled rate, conduct a small test on 1 or 2 plants of the specific variety to be treated.  Some plants are more sensitive to oil treatments if any of the following conditions are present when application is made: high humidity (74%), an overcast or cloudy day, inadequate air flow, a small greenhouse where the sunlight is magnified causing a fast build-up of temperature and light intensity.  *Asterisk denotes crop, pest not approved in California.
Aglaonema, Aster, Azaleas, Begonias, Browallia, Camellias, Carnation, Celosia, Chrysanthemum, Coleus, Cosmos, Crepe Myrtle*, Dusty Miller, Easter Lilies, Fuchsia*, Gardenias, Gerbera, Helichrysum, Hibiscus Foliage, Hydrangea, Impatiens*, Jade Plant, Marigold, New Guinea Impatiens, Nicotonia, Philodendron, Portulaca, Reiger Begonias, Snapdragon, Zinnias	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly, Powdery Mildew*	Summer (Foliar or Cover): Use 2.5 – 5 tbsp. of oil per 1 gal. of water.  Spray as needed.	
Leaf Polish for Hardy Plants		Use 2.5 tbsp. of oil per 1 gal. of water.	

## HOUSEPLANTS

Plant	Pest	Dilution Rate per 1 Gallon Water	Restrictions
Chrysanthemum, Dieffenbachia, Dracaena, Ferns, Gardenias, Jade Plant, Palms, Philodendron, Schefflera	Aphids, Leafminers, Mealybugs, Scales, Spider Mites, Whitefly*	2.5 – 5.0 Tbs. (1¼-2½ fl. oz.)	<b>Protect floor, floor coverings and furnishings from overspray.</b> Do not exceed 3 consecutive applications without allowing a two week application interval. Do not apply to plants in direct sunlight behind glass. Do not use on Coconut Palms or Maidenhair Ferns. Chrysanthemum blooms have shown phytotoxic symptoms at 5.0 Tbs. per gallon of water.

			<i>*Horticultural and Dormant Spray Oil is most effective on Whitefly during immature stages.</i>
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## **FOR HOUSEPLANTS AND HOBBY GREENHOUSES**

- Do not exceed the maximum rates or apply more often than indicated on this label.
- Certain plant species may be sensitive to oil. A small number of plants should be test sprayed prior to general spraying.
- Use caution on open blooms – bleaching and spotting have been observed on the open bloom of certain plants.

### **(WHEN PACKAGED IN READY-TO-SPRAY CONTAINER)**

Do not use hose-end sprayer application in home greenhouses or on houseplants. Hose-end sprayer applications may be made only when specified application rates are between 2½ and 5 tablespoons oil/1 gallon of water.

SHAKE WELL. Spray until plant is thoroughly saturated and spray solution runs off plant. For trees, wet entire surface of branches, main limbs and trunk. Give special attention to underside of limbs. Make application when the temperature is above 40°F.

## **HOW TO USE READY-TO-SPRAY CONTAINER**

Make sure water control knob on hose sprayer is in the “OFF” position. Hold by handle and shake vigorously, turning bottle as you shake. Attach hose to spray nozzle. Bend safety tab back and break off. Turn control to “WATER” position. Slowly turn on water supply to moderate rate of flow. Point nozzle toward spray area, turn control knob to “ON.” Product will automatically mix with the water. Slowly sweep the area to be treated. To stop spraying, turn control valve to the “OFF” position. Turn off water at faucet. To relieve pressure, turn control valve to the “WATER” position pointing sprayer away from self. Remove hose-end sprayer from hose.

### **[Optional Ready-To-Spray directions]**

#### **HOW TO USE READY-TO-SPRAY CONTAINER**

1. **Shake container thoroughly, then attach to garden hose.**
2. **Turn on water supply at the source. Water pressure will build in hose since the sprayer is already in the “OFF” position.**
3. **To apply product, bend safety tab and turn the control valve clockwise to the “ON” position.**
4. **When spraying is complete, turn the control valve back (counterclockwise). Turn the water off. Disconnect hose from applicator and store product in original container.]**

## FRUIT, NUTS & BERRIES

<b>CROP</b> *Asterisk denotes crop not approved in California.	<b>PESTS</b> *Asterisk denotes pest not approved in California.	<b>TIMING/ RESTRICTIONS</b>
Acerola (Barbados Cherry)* Atemoya* Carambola (Star Fruit)* Rambutan*	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Caterpillars, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Spray as needed.
Almonds Apricots Cherries Nectarines Peaches Pistachio	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphid Eggs, Fruit Tree Leafroller* (Eggs), Wintering Phytocoris (only on pistachio), Tent Caterpillars	<b>DORMANT AND DELAYED DORMANT:</b> Re-spray as needed.  European Fruit Lecanium Scale and European Red Mite Eggs: Apply from Green Tip to Delayed Dormant.  San Jose Scale: Apply from Dormant, Green Tip to Delayed Dormant.  For use on pistachio, apply as a dormant treatment and/or trees may be sprayed after harvest.
	Powdery Mildew (Cherries, Nectarines and Peaches only)	Cherries: Preharvest Use: Use up to pit hardening stage. Apply at 10-14 day intervals – shorten interval when disease conditions are severe. Trees may be sprayed after harvest to maintain control and reduce overwintering inoculum.  Nectarines/Peaches: Begin at 5% bloom and continue at 10-14 day intervals until terminal growth phase stops. Do not apply to oil sensitive varieties.
	Scales, Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	<b>FOLIAR SPRAY:</b> Spray as needed.
	White Peach Scale on Peaches: Only for use in Georgia, Florida, South Carolina, North Carolina, and Alabama	<b>DORMANT:</b> Apply before buds begin to swell in the spring.  Make 2 applications 7-14 days apart, or according to local Cooperative Extension Service recommendations, during the dormant period.
Apples	European Fruit Lecanium Scale Olive Scale, San Jose Scale, European Red Mite Eggs, Rust Mite, Rosy Apple Aphid Eggs, Apple Aphid Eggs	<b>DORMANT OR DELAYED DORMANT:</b> Spray as needed.  Rust Mite: Apply during the delayed dormant timing.



	Codling Moth*	Restriction: Use to control first generation early instar stages only.
	Leafroller (red banded, oblique banded, fruit tree), Apple Red Bug, Scurfy Scale, European Red Mite, Bud Moth, Light Brown Apple Moth, Red Bug	GREEN TIP TO DELAYED DORMANT: Spray as needed.
	San Jose Scale, Forbes Scale	DORMANT, GREEN TIP TO DELAYED DORMANT: Spray as needed.
	Powdery Mildew	Apply at tight cluster and continue every 10-14 days through second cover spray.  Use the 10-day spray interval when disease conditions are severe.
	Scales, Mites including: Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, Rust Mite, Leafhopper*, San Jose Scale, Rosy Apple Aphid*, Fruit Tree Leafroller*	FOLIAR SPRAY (Post Bloom): Apply every 10-14 days depending on level of pest pressure. Trees may be sprayed after harvest to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.
Avocados	Avocado Brown Mite, Thrips, Persea Mite	Apply through late fall.  Re-apply as needed.  California: Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.
Bananas Plantains	Black Leaf Streak ( <i>Mycosphaerella fijiensis</i> ), Black Sigatoka ( <i>Mycosphaerella fijiensis</i> var. <i>difformis</i> ), Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	Begin application when disease first appears and continue every 10-15 days during rainy periods.  Restriction: Do not apply when daytime temperatures exceed 80° F as injury may occur. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application. Bag fruits, or use a directed spray on unbagged fruits. Bagged fruit improves crop safety whereas unbagged fruit may show phytotoxicity. This application is also effective in loosening Sooty Mold Fungus and in preventing its formulation by the control of Aphids, Mealybugs, Scales and Whitefly.
Blueberries Bushberries Caneberries Raspberries	Mites, Powdery Mildew, Rust, Sawfly (eggs)*, Scales*, Aphids, Mealybug	Spray for optimum coverage of leaf surfaces.  Spray as needed.
Figs	Fig Scale	DORMANT OR DELAYED DORMANT: Spray as needed.
	Mites, Mealybug, Scale	Apply as foliar spray.

Grapes	Mealybug, Mites, Leafhopper*, Whiteflies*, Powdery Mildew, Botrytis	<p>Spray for optimum coverage of leaf surfaces. Repeat sprays every 10-14 days.</p> <p>For Powdery Mildew – Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use 10-day spray interval when disease conditions are severe.</p> <p>For Botrytis Bunch Rot –Initiate sprays at bloom and repeat prior to bunch closing and véraison. Make a final application at harvest if needed.</p> <p>Oil will remove the bloom on grapes.</p> <p>Restriction: Table grapes must not be sprayed within 60 days of harvest.</p> <p>Restriction: On grapes, do not mix oil and copper more than once/season.</p> <p>Restriction: Do not use copper and oil together with fruit present.</p>
Mango	Mites, Powdery Mildew	<p>Apply every 2-3 weeks as necessary depending on level of pest pressure.</p> <p>For Powdery Mildew – Begin application before bloom. Repeat at bloom and every 2-3 weeks as necessary.</p>
Olives	Olive (Parlatoria) Scale, Oleander Scale, Black Scale	POSTBLOOM THROUGH AUGUST AND AFTER HARVEST: Spray as needed.
	Mites	PREBLOOM TO POSTBLOOM BUCKSHOT: Spray as needed.
Papaya	Mites, Powdery Mildew, Papaya Ringspot Virus	<p>For Powdery Mildew and Mites: Spray every 10-14 days depending on the level of pest pressure.</p> <p>For Virus: Spray weekly. Initiate spray when seeds are germinated.</p>
Pears	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite Eggs	DORMANT: Spray as needed.
	Pear Psylla	Apply before eggs are laid in early spring.
	Codling Moth*	Use to control first generation early instar stages only.
	Fruit Tree Leafroller, Pear Leaf Blister Mite	DORMANT: Spray as needed.
	Powdery Mildew	<p>Apply at bud burst and continue every 10-14 days.</p> <p>Use the 10-day spray interval when disease conditions are severe.</p>
	Scales, Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, San Jose Scale and Italian Pear Scale (Summer forms), Leafhopper*, Pear Psylla	<p>FOLIAR SPRAY (Post Bloom):</p> <p>Trees may be sprayed after harvest to maintain control and reduce over-wintering inoculum. Do not apply oil to sensitive varieties.</p>

Pineapple	Mealybugs, Bud Moth, Chinese Rose Beetle	Spray as needed.
Plums Prunes	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite Eggs, European Red Mite Eggs, Aphids Eggs, Fruit Tree Leafroller Eggs, Tent Caterpillars*	DORMANT AND DELAYED DORMANT: Spray as needed.  Preferred times of application for European Fruit Lecanium Scale and European Red Mite Eggs are Green Tip to Delayed Dormant and for San Jose Scale are Dormant, Green Tip to Delayed Dormant.
	Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	FOLIAR SPRAY: Spray as needed.  Trees may be sprayed after harvest to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.  Restriction: Certain varieties of plums and prunes may be injured by oil sprays; check for tolerance prior to treatment. Do not apply to trees lacking moisture.
Strawberries	Aphids*, Botrytis, Leafminers*, Mites, Powdery Mildew, Sawfly, Scale, Whiteflies	Spray as needed.

**CITRUS (California Only)** Do not exceed a maximum of 4.8 pounds active ingredient per 1,000 square feet in California.

CROP	PESTS	TIMING	RESTRICTIONS
Grapefruit Lemons Limes Oranges (Navel & Valencia) Tangelos Tangerines  Other citrus hybrids	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Central California:</b> Lemons and Limes: make applications in all months except December through February.  Grapefruit: make applications July through October.  Navel Oranges: make applications July through September.  Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.  Spray as needed.	Restriction: Do not apply prior to or during a period of excessively high temperatures. Do not apply oil spray when trees show stress.  Consult with your local University of California Cooperative Extension Specialist for proper timing and spray program.
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Southern California:</b> Coastal Lemons and Limes: apply May and June and/or September through December.  Interior Lemons and Limes: apply in April and May and/or September through November.  Grapefruit: make applications July through October.	

		Navel Oranges: make applications July through September.	
		Valencia Oranges, Tangelos, Tangerines and other citrus hybrids: make applications July through October.	
		Spray as needed.	
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust	<b>Oxnard Plains Area:</b> Make applications as needed throughout the year.	
	Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red		

**CITRUS: (Florida and Texas)** Do not exceed a maximum of 3.6 pounds active ingredient per 1,000 square feet in Texas and Florida.

CROP	PESTS	TIMING	RESTRICTIONS
Citrons Grapefruits Lemons Limes Mandarins Oranges Tangelos Tangerines	Citrus Rust Mite, Spider Mites, Bud Mites, Flat Mites.	Summer spray only. Re-spray as needed.	Precautions in the use of oil include: Do not apply oil spray when trees are wilting. Do not apply oil and sulfur within 3 weeks of each other. Sensitive foliage may be injured. In Florida, consult the Florida Citrus Spray and Dust Schedule, or your Agricultural Experiment Station or State Extension Service Specialist for complete details on the spraying program best suited to your locale. In Texas, consult with your Agricultural Experiment Station or State Extension Specialist for complete details on the spraying program suited to your locale.
	Scales: Black Soft, Brown Soft, Chaff, Glover, Purple, Red, Yellow		
	<b>Does not control Citrus Snow Scale.</b>		
	Whitefly, Blackfly		
	Greasy Spot (Grapefruit)		
Other citrus hybrids	Greasy Spot (all other varieties)		
DO NOT APPLY TO NAVEL ORANGES.	Loosening sooty mold		

## VEGETABLE GARDENS

CROP *Asterisk denotes crop not approved in California.	PESTS *Asterisk denotes pest not approved in California.	TIMING/ RESTRICTIONS
Asparagus, Beans, Beets, Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage (Bok Choy and Mapa), Chinese Mustard Cabbage (Gai Choy), Cavalo Broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Celery, Chayote, Chinese Waxgourd, Citron Melon, Cucumber, Gherkin, Hyotan, Cucuzza, Hechima, Chinese Okra, Balsam Apple, Balsam Pear, Bitter Melon, Chinese Cucumber, True Cantaloupe, Cantaloupe, Casaba,	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus.	Spray as needed.

Crenshaw Melon, Golden Pershaw Melon, Honeydew Melon, Honey Galls, Mango Melon, Persian Melon, Pumpkin, Summer Squash, Winter Squash, Watermelon, Dasheen (Taro)*, Eggplant, Ginger*, Ginseng*, Herbs and Spices* (Curly Leaf Basil, Lemon Balm), Japanese Radish (Daikon)*, Lettuce, Okra*, Peppers, Potatoes, Radishes, Sweet Potatoes		
Chinese Artichoke* (Japanese Artichoke), Cilantro*, Herbs and Spices* (Mexican Oregano, Mint)	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Pepper Psyllids, Cucumber Mosaic Virus 2, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.
Corn (Sweet)	Aphids, Mites, Leafhopper, Leafminers, Corn Earworm, Rootworm, Armyworm, Whitefly, Cercospora	Spray as needed.
Tomatoes	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Tomato Psyllid*, Tomato Pin Worm*, Fruit Worm*, Army Worm*, Horn Worm*, Lygus Bug*, Stink Bug*, Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Spray once or twice weekly depending on the rapid growth of the crop and/or vector pressure.

## ROSES, FLOWERING SHRUBS & ORNAMENTALS

PLANT	PESTS	TIMING/ RESTRICTIONS
Flowering and Foliage Plants including Roses and Other Flowering Shrubs	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	Summer (Foliar or Cover): Spray as needed.
Foliage Ornamentals & Bedding Plants	Aphids, Adelgids	Summer (Foliar or Cover): Spray as needed.  Application safety during bloom period must be determined for each individual species of plant to be treated by conducting a small test.

Non-Fruit-Bearing Trees: Apple, Cherry, Peach, Pear	Mites	Apply every 10-14 days.
	Powdery Mildew	Spray before disease first appears. Apply every 10-14 days.
Shade Trees** Ornamental Trees** Shrubs (including Conifers, Deciduous and Broadleaf Evergreens & Woody Ornamentals)	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Hemlock Wooly Adelgids, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young Caterpillars	<p>Summer (Foliar or Cover): Spray as needed.</p> <p>Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all the leaves and stems until wet but without significant runoff.</p> <p>Fall Dormant applications: Limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Plum.</p> <p>Restriction: Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. This product may cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays (e.g. Alberta Dwarf Spruce).</p>

\*\*This product removes the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce.

Always test spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecyparis, Juniper, Japanese Holly and Spruce.

Tendency toward sensitivity: Red Cedar and Douglas Fir.

### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store and transport in an upright position. Keep container tightly closed to prevent evaporation. Do not use, pour, spill or store near heat or open flame. Store in a cool dry area inaccessible to children or pets.

**Pesticide Disposal:** *If partly filled* – Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**Container Disposal:** *If empty* – Nonrefillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.

For information on pesticide products (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

### WARRANTY

Seller warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, Seller makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, Seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, Seller shall have no liability for consequential damages.

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